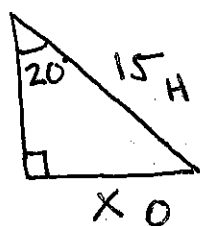


Notes 3/10 - Using Trig to Find Unknowns

- Steps:
1. Label sides O, A, H
 2. Decide which trig function to use based on the two sides you care about
SOH-CAH-TOA
 3. Set up + solve your equation.

Ex 1:

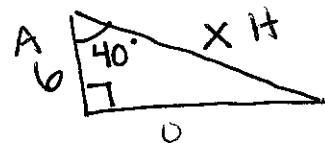


$$\text{SOH } \sin \theta = \frac{O}{H}$$

$$15 \cdot \sin 20 = \frac{X}{15} \cdot 15$$

$$X = 15 \cdot \sin 20^\circ \approx 5.13$$

Ex 2:

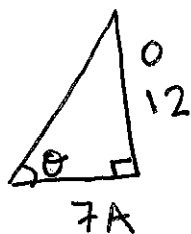


$$\text{CAH } \cos \theta = \frac{A}{H}$$

$$\cos 40 = \frac{6}{X}$$

$$X = \frac{6}{\cos 40} \approx 7.83$$

Ex 3:



$$\text{TOA } \tan \theta = \frac{O}{A}$$

$$\tan \theta = \frac{12}{7}$$

$$\theta = \tan^{-1}\left(\frac{12}{7}\right) \approx 59.7^\circ$$

Calc: 2nd tan

When finding angles, you must use the inverse trig functions

\sin^{-1} \cos^{-1} \tan^{-1}

To get inside, use the inverse